

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C. 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing: 10 February 2000 (10.02.00)	
International application No.: PCT/JP99/04092	Applicant's or agent's file reference: PH-676-PCT
International filing date: 29 July 1999 (29.07.99)	Priority date: 29 July 1998 (29.07.98)
Applicant: NARIMATSU, Hisashi et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International preliminary Examining Authority on:

11 November 1999 (11.11.99)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer:</p> <p>J. Zahra</p> <p>Telephone No.: (41-22) 338.83.38</p>
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PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PH-676-PCT	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/JP99/04092	International filing date (day/month/year) 29 July 1999 (29.07.99)	Priority date (day/month/year) 29 July 1998 (29.07.98)
International Patent Classification (IPC) or national classification and IPC C12N 9/10, 1/21, 5/10, 15/54, C12Q 1/68, C07K 16/40, A01K 67/027		
Applicant KYOWA HAKKO KOGYO CO., LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.	
2. This REPORT consists of a total of <u>3</u> sheets, including this cover sheet.	
<input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).	
These annexes consist of a total of _____ sheets.	
3. This report contains indications relating to the following items:	
I	<input checked="" type="checkbox"/> Basis of the report
II	<input type="checkbox"/> Priority
III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input type="checkbox"/> Lack of unity of invention
V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/> Certain documents cited
VII	<input type="checkbox"/> Certain defects in the international application
VIII	<input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 11 November 1999 (11.11.99)	Date of completion of this report 01 March 2000 (01.03.2000)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP99/04092

I. Basis of the report

1. With regard to the elements of the international application:*

- ☒ the international application as originally filed
- ☐ the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
pages _____, as originally filed
pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the sequence listing part of the description:
pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☒ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☒ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages _____
- ☐ the claims, Nos. _____
- ☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP99/04092

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-49	YES
	Claims		NO
Inventive step (IS)	Claims	1-49	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-49	YES
	Claims		NO

2. Citations and explanations

The subject matters of claims 1-49 are neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art in view of the prior art including those documents.



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FAX +31 70 340 3016

**Europäisches
Patentamt**

Zweigstelle
in Den Haag
Recherchen-
abteilung

**European
Patent Office**

Branch at
The Hague
Search
division

**Office européen
des brevets**

Département à
La Haye
Division de la
recherche

VOSSIUS & PARTNER
Siebertstrasse 4
81675 München
ALLEMAGNE

EINGEGANGEN
Vossius & Partner

4. Nov. 2002

Frist
beard.

Datum/Date

31.10.02

Zeichen/Ref./Réf.

F 1152 EP

Anmeldung Nr./Application No./Demande n°/Patent Nr./Patent No./Brevet n°.

99933171.3-2405-JP9904092

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire

KYOWA HAKKO KOGYO CO., LTD.

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.





DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X (1)	WO 93 16178 A (US ARMY) 19 August 1993 (1993-08-19) * page 225; example 4 * ---	27,28	C12N9/10 C12N1/21 C12N5/10 C12N15/54 C12Q1/68 C07K16/40 A01K67/027
A (2)	WO 96 40881 A (GEN HOSPITAL CORP) 19 December 1996 (1996-12-19) * the whole document * ---		
P,X (3)	DATABASE EMBL 'Online! EMBL; H. sapiens mRNA for alpha-3-fucosyltransferase, 3 May 1999 (1999-05-03) MOLLICONE R. ET AL.: "Homo sapiens mRNA for alpha-3-fucosyltransferase" Database accession no. AJ238701 XP002216922 * abstract * -----	1-38, 40-42, 46-49	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			C12N
The supplementary search report has been based on the last set of claims valid and available at the start of the search.			
Place of search MUNICH		Date of completion of the search 16 October 2002	Examiner Pilat, D
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 99 93 3171

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

16-10-2002

Patent document cited in search report		Publication date		Patent family member(s)	Publication date
WO 9316178	A	19-08-1993	AU	2240492 A	25-01-1993
			AU	3665893 A	03-09-1993
			EP	0593580 A1	27-04-1994
			WO	9300353 A1	07-01-1993
			WO	9316178 A2	19-08-1993
WO 9640881	A	19-12-1996	US	5858752 A	12-01-1999
			AU	5730896 A	30-12-1996
			CA	2223440 A1	19-12-1996
			EP	0832199 A1	01-04-1998
			JP	11512921 T	09-11-1999
			WO	9640881 A1	19-12-1996

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Translation

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Date of submission of the demand 11 November 1999 (11.11.99)	Date of completion of this report 01 March 2000 (01.03.2000)
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pages _____, as originally filed
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the claims:
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pages _____, as amended (together with any statement under Article 19
pages _____, filed with the demand
pages _____, filed with the letter of _____
- ☐ the drawings:
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pages _____, filed with the demand
pages _____, filed with the letter of _____
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	Claims		NO
Inventive step (IS)	Claims	1-49	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-49	YES
	Claims		NO

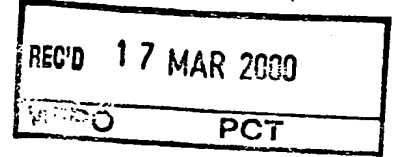
2. Citations and explanations

The subject matters of claims 1-49 are neither described in any of the documents cited in the ISR nor obvious to a person skilled in the art in view of the prior art including those documents.

PCT

国際予備審査報告

(法第12条、法施行規則第56条)
〔PCT36条及びPCT規則70〕



出願人又は代理人 の書類記号 PH-676-PCT	今後の手続きについては、国際予備審査報告の送付通知（様式PCT/ IPEA/416）を参照すること。	
国際出願番号 PCT/JP99/04092	国際出願日 (日.月.年) 29.07.99	優先日 (日.月.年) 29.07.98
国際特許分類 (IPC) Int. Cl ⁷ C12N9/10, 1/21, 5/10, 15/54, C12Q1/68, C07K16/40, A01K67/027		
出願人 (氏名又は名称) 協 和 酵 酵 工 業 株 式 会 社		

1. 国際予備審査機関が作成したこの国際予備審査報告を法施行規則第57条 (PCT36条) の規定に従い送付する。
2. この国際予備審査報告は、この表紙を含めて全部で 3 ページからなる。 <input type="checkbox"/> この国際予備審査報告には、附属書類、つまり補正されて、この報告の基礎とされた及び/又はこの国際予備審査機関に対してした訂正を含む明細書、請求の範囲及び/又は図面も添付されている。 (PCT規則70.16及びPCT実施細則第607号参照) この附属書類は、全部で ページである。
3. この国際予備審査報告は、次の内容を含む。 I <input checked="" type="checkbox"/> 国際予備審査報告の基礎 II <input type="checkbox"/> 優先権 III <input type="checkbox"/> 新規性、進歩性又は産業上の利用可能性についての国際予備審査報告の不作成 IV <input type="checkbox"/> 発明の単一性の欠如 V <input checked="" type="checkbox"/> PCT35条(2)に規定する新規性、進歩性又は産業上の利用可能性についての見解、それを裏付けるための文献及び説明 VI <input type="checkbox"/> ある種の引用文献 VII <input type="checkbox"/> 国際出願の不備 VIII <input type="checkbox"/> 国際出願に対する意見

国際予備審査の請求書を受理した日 11.11.99	国際予備審査報告を作成した日 01.03.00	
名称及びあて先 日本国特許庁 (IPEA/JP) 郵便番号100-8915 東京都千代田区霞が関三丁目4番3号	特許庁審査官 (権限のある職員) 内 田 俊 生 電話番号 03-3581-1101 内線 3488	4N 8214

I. 国際予備審査報告の基礎

1. この国際予備審査報告は下記の出願書類に基づいて作成された。(法第6条(PCT14条)の規定に基づく命令に
応答するために提出された差し替え用紙は、この報告書において「出願時」とし、本報告書には添付しない。
PCT規則70.16, 70.17)

☒ 出願時の国際出願書類

- ☐ 明細書 第 _____ ページ、 出願時に提出されたもの
明細書 第 _____ ページ、 国際予備審査の請求書と共に提出されたもの
明細書 第 _____ ページ、 _____ 付の書簡と共に提出されたもの
- ☐ 請求の範囲 第 _____ 項、 出願時に提出されたもの
請求の範囲 第 _____ 項、 PCT19条の規定に基づき補正されたもの
請求の範囲 第 _____ 項、 国際予備審査の請求書と共に提出されたもの
請求の範囲 第 _____ 項、 _____ 付の書簡と共に提出されたもの
- ☐ 図面 第 _____ ページ/図、 出願時に提出されたもの
図面 第 _____ ページ/図、 国際予備審査の請求書と共に提出されたもの
図面 第 _____ ページ/図、 _____ 付の書簡と共に提出されたもの
- ☐ 明細書の配列表の部分 第 _____ ページ、 出願時に提出されたもの
明細書の配列表の部分 第 _____ ページ、 国際予備審査の請求書と共に提出されたもの
明細書の配列表の部分 第 _____ ページ、 _____ 付の書簡と共に提出されたもの

2. 上記の出願書類の言語は、下記に示す場合を除くほか、この国際出願の言語である。

上記の書類は、下記の言語である _____ 語である。

- ☐ 国際調査のために提出されたPCT規則23.1(b)にいう翻訳文の言語
☐ PCT規則48.3(b)にいう国際公開の言語
☐ 国際予備審査のために提出されたPCT規則55.2または55.3にいう翻訳文の言語

3. この国際出願は、ヌクレオチド又はアミノ酸配列を含んでおり、次の配列表に基づき国際予備審査報告を行った。

- ☐ この国際出願に含まれる書面による配列表
☒ この国際出願と共に提出されたフレキシブルディスクによる配列表
☐ 出願後に、この国際予備審査(または調査)機関に提出された書面による配列表
☐ 出願後に、この国際予備審査(または調査)機関に提出されたフレキシブルディスクによる配列表
☐ 出願後に提出した書面による配列表が出願時における国際出願の開示の範囲を超える事項を含まない旨の陳述書の提出があった
☒ 書面による配列表に記載した配列とフレキシブルディスクによる配列表に記載した配列が同一である旨の陳述書の提出があった。

4. 補正により、下記の書類が削除された。

- ☐ 明細書 第 _____ ページ
☐ 請求の範囲 第 _____ 項
☐ 図面 図面の第 _____ ページ/図

5. ☐ この国際予備審査報告は、補充欄に示したように、補正が出願時における開示の範囲を越えてされたものと認められるので、その補正がされなかったものとして作成した。(PCT規則70.2(c) この補正を含む差し替え用紙は上記1.における判断の際に考慮しなければならず、本報告に添付する。)

V. 新規性、進歩性又は産業上の利用可能性についての法第12条(PCT35条(2))に定める見解、それを裏付ける文献及び説明

1. 見解

新規性(N)	請求の範囲	1 - 49	有
	請求の範囲		無
進歩性(IS)	請求の範囲	1 - 49	有
	請求の範囲		無
産業上の利用可能性(IA)	請求の範囲	1 - 49	有
	請求の範囲		無

2. 文献及び説明(PCT規則70.7)

請求の範囲1-49に記載されている発明は、国際調査報告で引用されたいずれの文献にも記載されておらず、かつ、当該技術分野の専門家にとってそれらの文献を含む先行技術からみて自明のものでもない。

09/744748

Rec'd PCT/PTO 29 JAN 2001

(Translation)

INTERNATIONAL FORM

BUDAPEST TREATY ON THE INTERNATIONAL
RECOGNITION OF THE DEPOSIT OF
MICROORGANISMS FOR THE PURPOSES OF
PATENT PROCEDURE

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT

issued pursuant to Rule 7.1 by the
INTERNATIONAL DEPOSITARY AUTHORITY
identified at the bottom of this page.

TO DEPOSITOR:

Name: Kyowa Hakko Kogyo Co., Ltd.
Representative: Tadashi HIRATA
Address: 6-1, Ohtemachi 1-chome, Chiyoda-ku, Tokyo

I . IDENTIFICATION OF MICROORGANISM	
Identification Reference Given by the Depositor: Escherichia coli SOLR™ Strain/pBS-hFT9 (S2)	Accession Number: FERM BP-6416
II . A SCIENTIFIC DESCRIPTION AND/OR PROPOSED TAXONOMIC POSITION	
The microorganism identified under I above was accompanied by a document stating the following item(s). <input type="checkbox"/> A Scientific Property <input checked="" type="checkbox"/> Taxonomic Position	
III . RECEIPT AND ACCEPTANCE	
This International Depositary Authority accepts the microorganism identified under I above, which was received on July 10, 1998. (date of the original deposit)	
IV . RECEIPT OF REQUEST FOR TRANSFER	
This International Depositary Authority received the microorganism under I above on (date of the original deposit), and received on , a request for transfer from the original deposit to the deposit under the Budapest treaty.	
V . INTERNATIONAL DEPOSITARY AUTHORITY	
Name: National Institute of Bioscience and Human-Technology Agency of Industrial Science and Technology Representative: Shinichi Ohashi (sealed) Dr., Director-General Address: 1-3, Higashi 1-chome, Tsukuba-shi, Ibaraki-ken 305-8566, JAPAN Date: July 10, 1998	

BUDAPEST TREATY ON THE INTERNATIONAL RECOGNITION OF THE DEPOSIT OF MICROORGANISMS FOR THE PURPOSES OF PATENT PROCEDURE

[特許手続上の微生物の寄託の国際的承認
に関するブダペスト条約]

RECEIPT IN THE CASE OF AN ORIGINAL DEPOSIT

下記国際寄託当局によって規則 7. 1 に従い
発行される。issued pursuant to Rule 7. 1 by the
INTERNATIONAL DEPOSITARY AUTHORITY
identified at the bottom of this
page.

原寄託についての受託証

氏名 (名称)

協和醗酵工業株式会社
取締役社長 平田 正

殿

寄託者

あて名 〒

東京都千代田区大手町一丁目 6 番 1 号

1. 微生物の表示

(寄託者が付した識別のための表示)

Escherichia coli SOLR™ Strain/pBS-hFT9
(S2)

(受託番号)

FERM BP- 6416

2. 科学的性質及び分類学上の位置

1 欄の微生物には、次の事項を記載した文書が添付されていた。

- ☐
- 科学的性質
-
- ☒
- 分類学上の位置

3. 受領及び受託

本国際寄託当局は、平成 10 年 7 月 10 日 (原寄託日) に受領した 1 欄の微生物を受託する。

4. 移管請求の受領

本国際寄託当局は、
年 月 日 (原寄託日) に 1 欄の微生物を受領した。
そして、年 月 日に原寄託よりブダペスト条約に基づく寄託への移管請求を受領した。

5. 国際寄託当局

通商産業省工業技術院生命工学工業技術研究所

名称: National Institute of Bioscience and Human-Technology
Agency for Industrial Science and Technology

所長 大箸 信

Dr. Shinobu Ohtsuru Director-General

あて名: 日本国茨城県つくば市東 1 丁目 1 番 3 号 (郵便番号 305-8566)
1-3, Higashi 1 chome Tsukuba-shi Ibaraki-ken
305-8566, JAPAN

平成 10 年 (1998) 7 月 10 日

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
United States Patent and Trademark
Office
Box PCT
Washington, D.C. 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing:

10 February 2000 (10.02.00)

International application No.:

PCT/JP99/04092

Applicant's or agent's file reference:

PH-676-PCT

International filing date:

29 July 1999 (29.07.99)

Priority date:

29 July 1998 (29.07.98)

Applicant:

NARIMATSU, Hisashi et al

1. The designated Office is hereby notified of its election made:



in the demand filed with the International preliminary Examining Authority on:

11 November 1999 (11.11.99)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was



was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

Telephone No.: (41-22) 338.83.38

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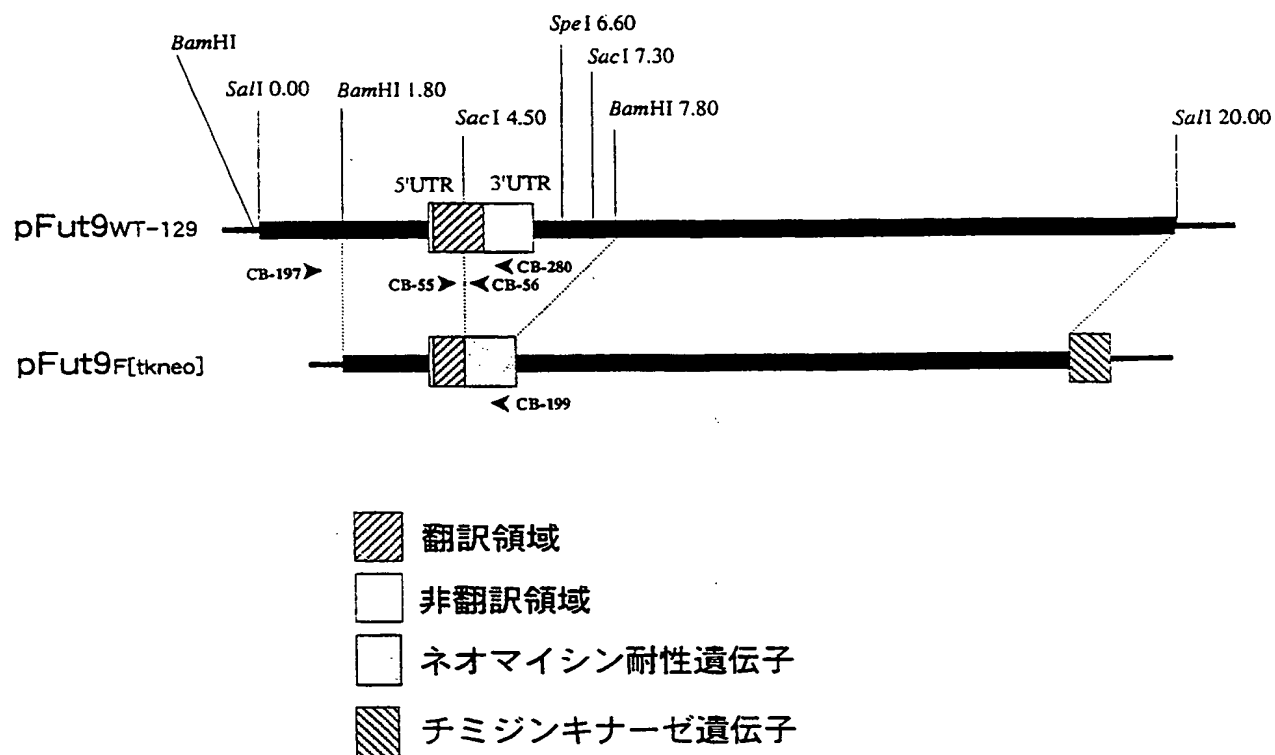


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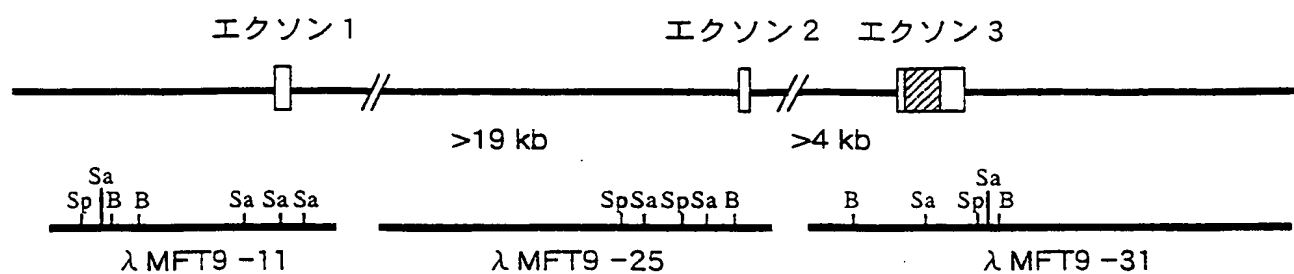


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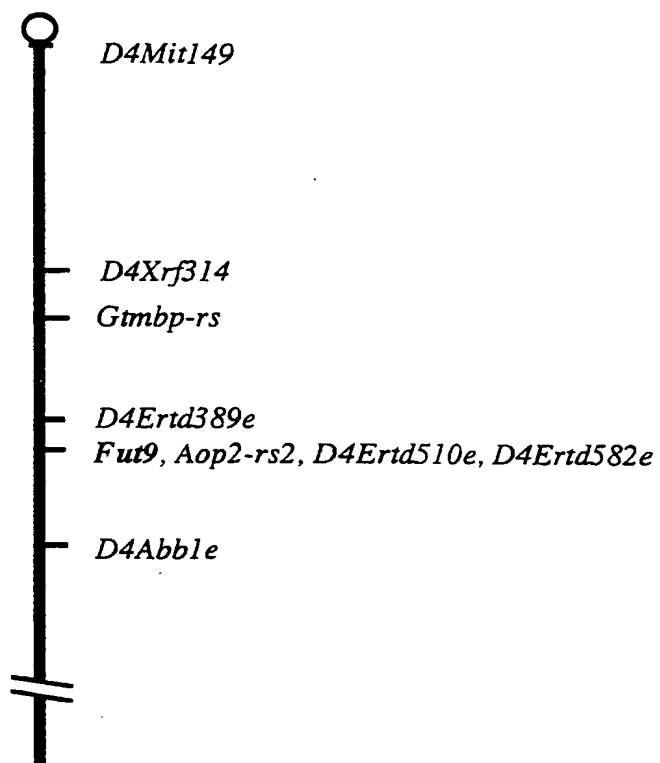


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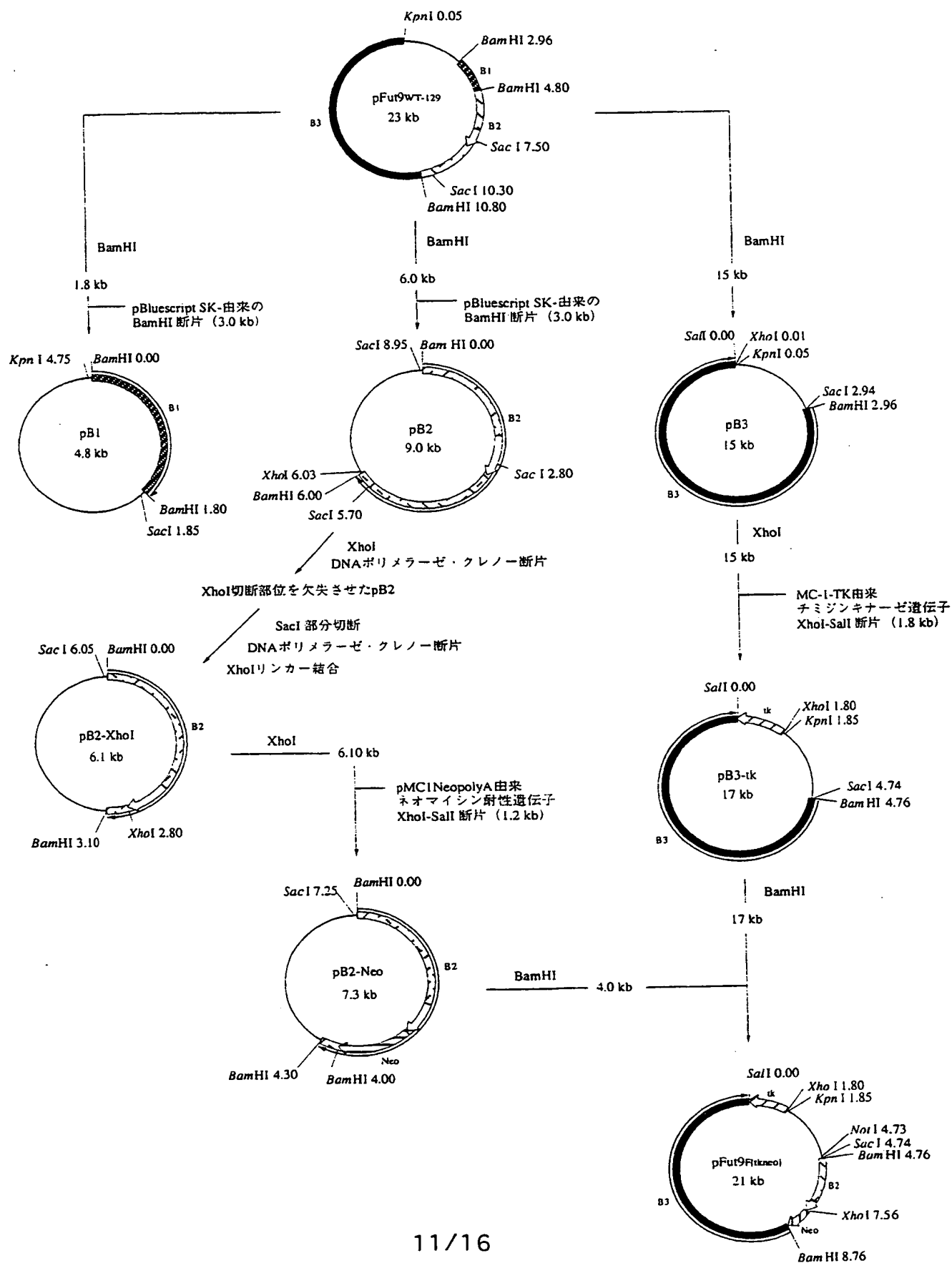
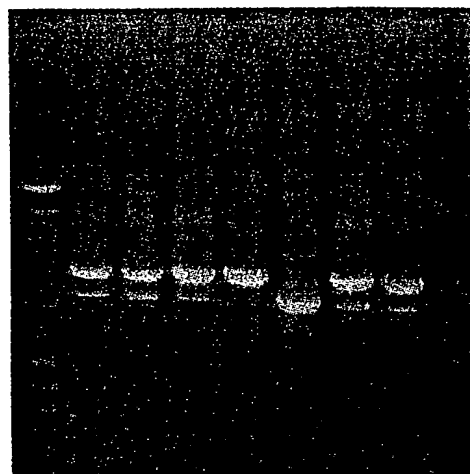


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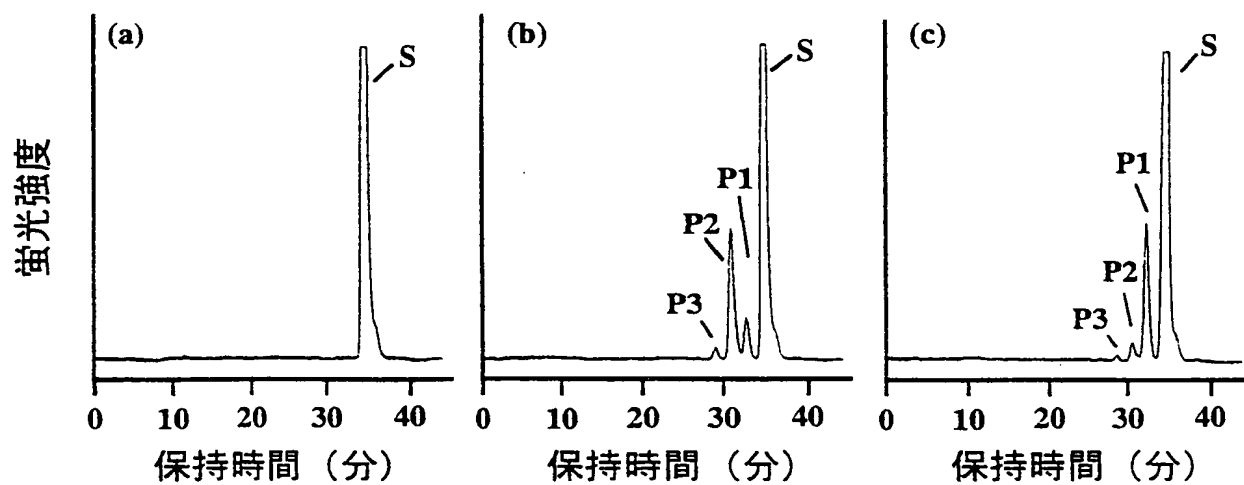


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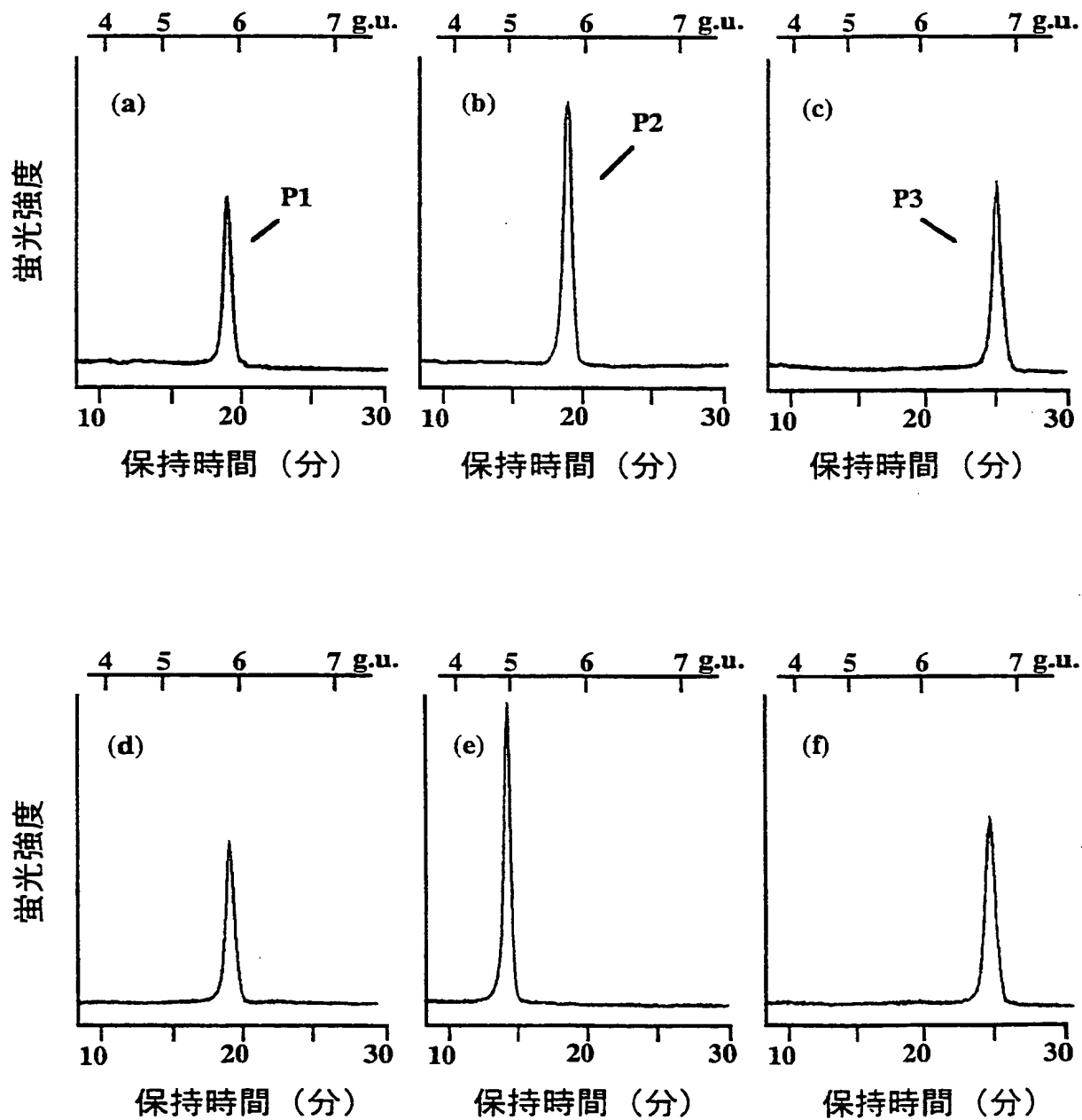


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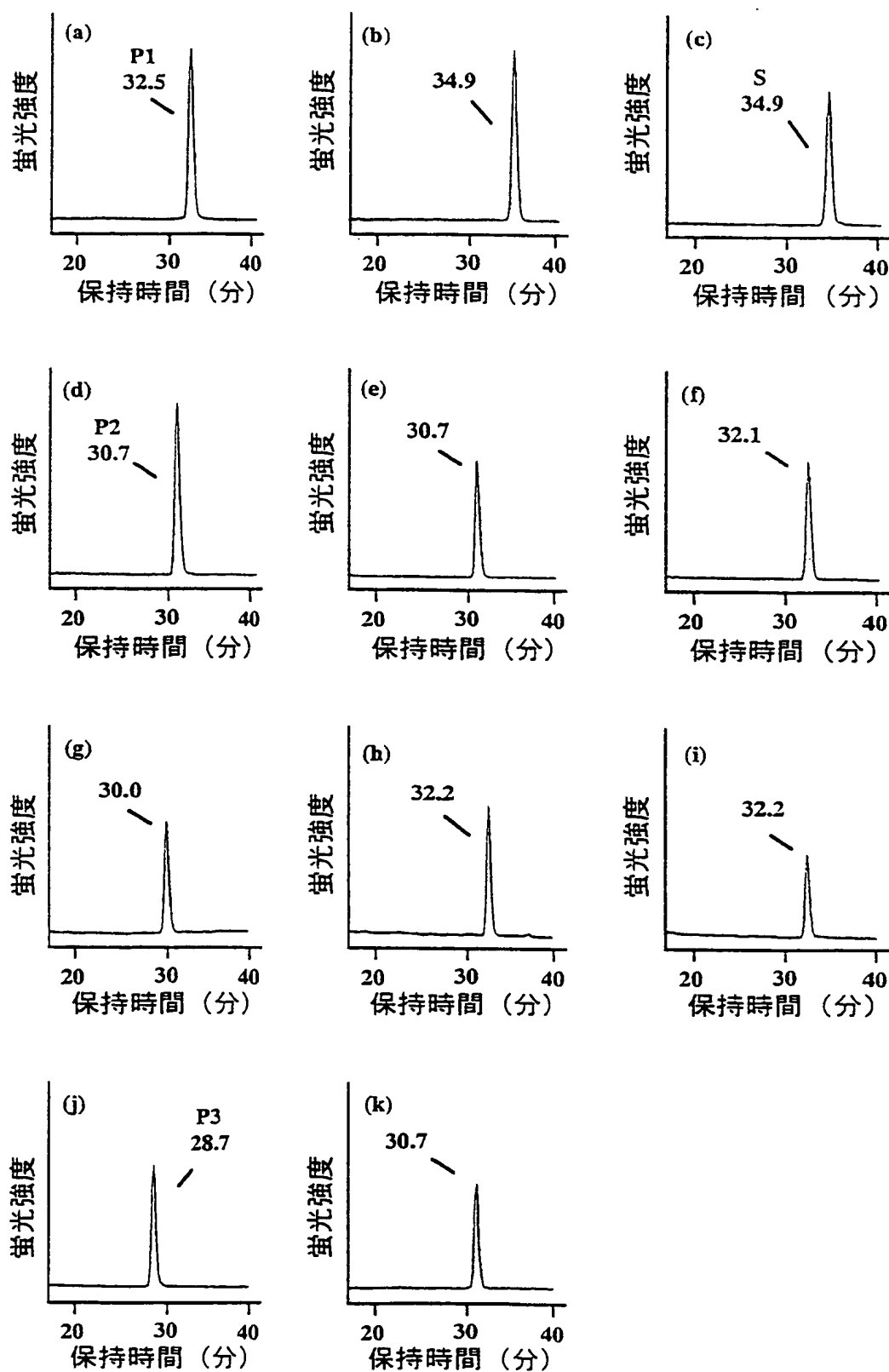
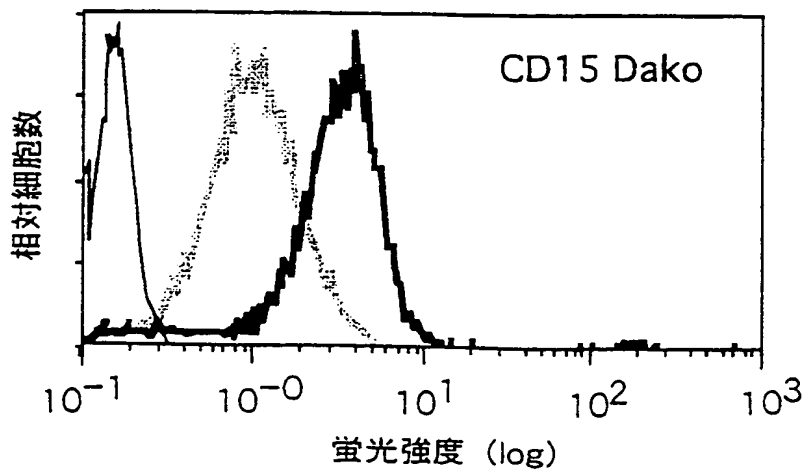
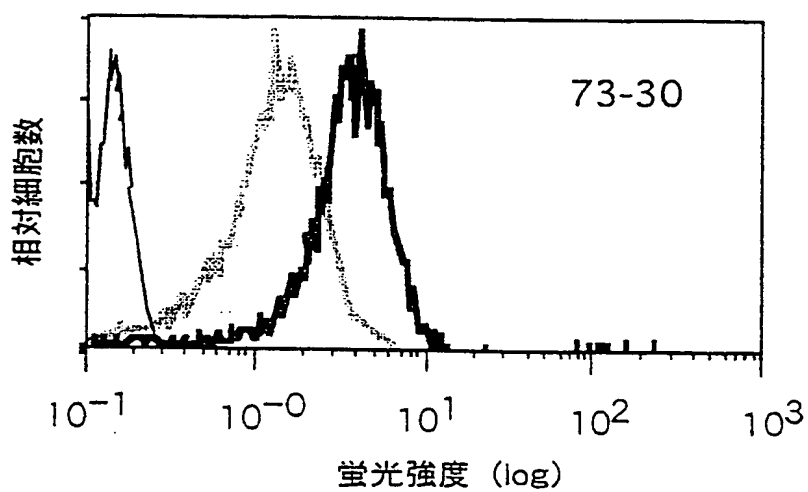
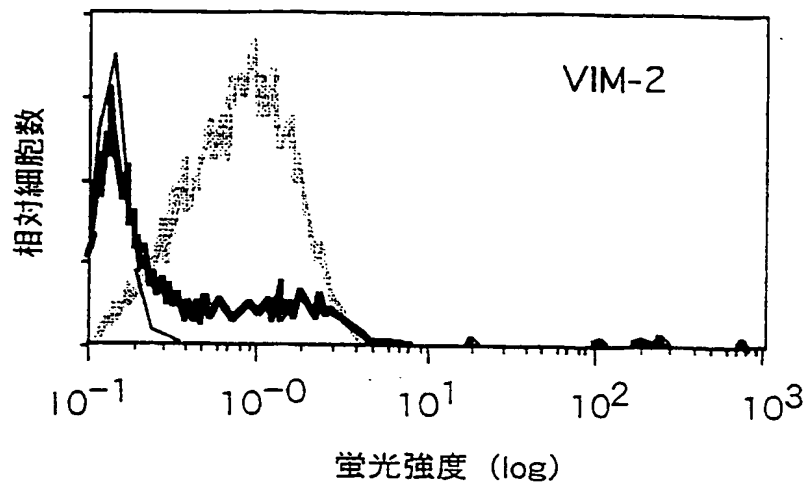


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gtggtttgat tatgttttcc aactgatca gctgtttaat ctatttggga aatgaagatg 2725

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Met

1

aca tca aca tcc aaa gga att ctt cgc cca ttt tta att gtc tgc att 345

Thr Ser Thr Ser Lys Gly Ile Leu Arg Pro Phe Leu Ile Val Cys Ile

5

10

15

atc ctg ggc tgt ttc atg gca tgt ctt ctc att tac atc aaa cct acc 393

Ile Leu Gly Cys Phe Met Ala Cys Leu Leu Ile Tyr Ile Lys Pro Thr

20

25

30

aac agc tgg atc ttc agt cca atg gaa tca gcc agc tct gtg ctg aaa 441

Asn Ser Trp Ile Phe Ser Pro Met Glu Ser Ala Ser Ser Val Leu Lys

35

40

45

atg aaa aac ttc ttt tcc acc aaa act gat tat ttt aat gaa act act 489

Met Lys Asn Phe Phe Ser Thr Lys Thr Asp Tyr Phe Asn Glu Thr Thr

50

55

60

65

att ctg gtg tgg gtg tgg cca ttt ggg cag acc ttt gac ctt aca tcc 537

Ile Leu Val Trp Val Trp Pro Phe Gly Gln Thr Phe Asp Leu Thr Ser

70

75

80

tgc caa gca atg ttc aac atc caa gga tgc cat ctc aca acg gac cgt 585

Cys Gln Ala Met Phe Asn Ile Gln Gly Cys His Leu Thr Thr Asp Arg

85

90

95

tca ctg tac aac aaa tcc cat gca gtt ctg atc cat cac cga gac atc 633

Ser Leu Tyr Asn Lys Ser His Ala Val Leu Ile His His Arg Asp Ile

100

105

110

agt tgg gat ctg aca aat tta cct cag caa gct agg cca ccc ttc cag 681

Ser Trp Asp Leu Thr Asn Leu Pro Gln Gln Ala Arg Pro Pro Phe Gln

115

120

125

aaa tgg att tgg atg aat ttg gaa tca cca act cac act ccc caa aag 729

Lys Trp Ile Trp Met Asn Leu Glu Ser Pro Thr His Thr Pro Gln Lys

130

135

140

145

agt ggc att gag cac ttg ttt aac ctg act ctg act tac cgc cgt gat 777

Ser Gly Ile Glu His Leu Phe Asn Leu Thr Leu Thr Tyr Arg Arg Asp

150

155

160

tca gat atc caa gtg cct tat ggc ttc ttg acg gta agc aca aat ccc 825

Ser Asp Ile Gln Val Pro Tyr Gly Phe Leu Thr Val Ser Thr Asn Pro

165

170

175

ttc gtg ttt gaa gtg cca agc aaa gag aaa ttg gtg tgc tgg gtt gtg 873

Phe Val Phe Glu Val Pro Ser Lys Glu Lys Leu Val Cys Trp Val Val

180

185

190

agt aac tgg aac cct gag cat gcc aga gtc aag tat tac aat gag cta 921

Ser Asn Trp Asn Pro Glu His Ala Arg Val Lys Tyr Tyr Asn Glu Leu

195

200

205

agc aaa agc att gaa atc cat acc tac ggg caa gca ttt gga gaa tat 969

Ser Lys Ser Ile Glu Ile His Thr Tyr Gly Gln Ala Phe Gly Glu Tyr

210

215

220

225

gtc aat gat aaa aat ttg att cct acc ata tct gct tgt aaa ttt tat 1017

Val Asn Asp Lys Asn Leu Ile Pro Thr Ile Ser Ala Cys Lys Phe Tyr

230

235

240

ctt tcc ttt gaa aat tca atc cac aag gat tac atc acg gaa aag cta 1065

Leu Ser Phe Glu Asn Ser Ile His Lys Asp Tyr Ile Thr Glu Lys Leu

245

250

255

tac aat gct ttt ctg gct ggc tct gta cct gtt gtt ctg gga cca tct 1113

Tyr Asn Ala Phe Leu Ala Gly Ser Val Pro Val Val Leu Gly Pro Ser

260

265

270

agg gaa aac tat gag aat tat att cca gca gat tca ttc att cat gtg 1161

Arg Glu Asn Tyr Glu Asn Tyr Ile Pro Ala Asp Ser Phe Ile His Val

275

280

285

gaa gat tat aac tct ccc agt gag cta gca aag tat ctg aag gaa gtc 1209

Glu Asp Tyr Asn Ser Pro Ser Glu Leu Ala Lys Tyr Leu Lys Glu Val

290

295

300

305

gac aaa aac aat aag tta tac ctt agt tac ttt aac tgg agg aag gat 1257

Asp Lys Asn Asn Lys Leu Tyr Leu Ser Tyr Phe Asn Trp Arg Lys Asp

310

315

320

ttc act gta aat ctt cca cga ttt tgg gaa tca cat gca tgt ttg gct 1305

Phe Thr Val Asn Leu Pro Arg Phe Trp Glu Ser His Ala Cys Leu Ala

325

330

335

tgc gat cat gtg aaa agg cat caa gaa tat aag tct gtt ggt aat tta 1353

Cys Asp His Val Lys Arg His Gln Glu Tyr Lys Ser Val Gly Asn Leu

340

345

350

gag aaa tgg ttt tgg aat taaaattttt catcacttgc acacttgata 1401

Glu Lys Trp Phe Trp Asn

355

aataatttga tgagatatca tccaagtatt gaggataaga agagatgcaa catactactt 1461

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<223> Description of Artificial Sequence: synthetic DNA

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11

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<223> Description of Artificial Sequence: synthetic DNA

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ctctaaag

8

<210> 8

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<223> Description of Artificial Sequence: synthetic DNA

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ctggattcta tccagtgcaa ggcgagggtt tg

32

<210> 9

<211> 33

<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

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33

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<223> Description of Artificial Sequence: synthetic DNA

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31

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<223> Description of Artificial Sequence: synthetic DNA

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32

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<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic DNA

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cagctgggat ctgactaact tacc

24

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<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

<400> 13

ccacatgaat gaatgaatca gctgg

25

<210> 14

<211> 24

<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

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gatatcgctg cgctgggtcgt cgac

24

<210> 15

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<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

<400> 15

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24

<210> 16

<211> 24

<212> DNA

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24

<210> 17

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<223> Description of Artificial Sequence: synthetic DNA

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tgcttgcca taggtgtgga tttc

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<210> 18

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<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

<400> 18

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24

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<223> Description of Artificial Sequence: synthetic DNA

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24

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<223> Description of Artificial Sequence: synthetic DNA

<400> 20

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24

<210> 21

<211> 24

<212> DNA

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<223> Description of Artificial Sequence: synthetic DNA

<400> 21

tgaatcagct ggaatataat tctc

24

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<223> Description of Artificial Sequence: synthetic DNA

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<210> 24

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<223> Description of Artificial Sequence: synthetic DNA

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32

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<223> Description of Artificial Sequence: synthetic DNA

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32

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<211> 25

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic DNA

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aaattatgac atcaacatcc aaagg

25

<210> 27

<211> 25

<212> DNA

<213> Artificial Sequence

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<223> Description of Artificial Sequence: synthetic DNA

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<210> 28

<211> 891

<212> DNA

<213> Mouse

<400> 28

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<210> 29

<211> 87

<212> DNA

<213> Mouse

<400> 29

ctttagaatg tgataactca cgcactctgat agcaccgtgg agtagttcag cactcatctc 60

tgctttccat gctatgttct ctacact 87

<210> 30

<211> 2036

<212> DNA

<213> Mouse

<400> 30

gaaaaattat gacatcaaca tccaaaggca ttcttcgccc atttctaate gtctgcatca 60

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<211> 2056

<212> DNA

<213> Mouse

<400> 31

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ccaccttgac cccgga 2056

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<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic DNA

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24

<210> 33

<211> 22

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic DNA .

<400> 33

acattgggtg gaaacattcc ag

22

<210> 34

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: synthetic DNA

<400> 34

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24